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Case Report

Giant Right Hepatic Hemangioma

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Abstract

Hemangiomas are the most common benign tumors of the liver. Most of them remain stable. However, when a hemangioma continues to grow, it may become symptomatic. We describe a 40-year-old woman who initially presented with a hemangioma approximately 3 cm in diameter in the right lobe of the liver. Eight years after the initial presentation, the hemangioma had grown to 11×8 cm with the symptom of abdominal pain. She was managed with conservative treatment at another hospital. However, the symptoms and tumor bothered her physically and psychologically for 1 year. Surgical resection was performed to relieve her symptoms. The huge tumor was compressing the inferior vena cava and was very close to the middle hepatic vein, which made the operation difficult. The postoperative course was uneventful. We suggest early surgical resection for symptomatic giant hepatic hemangiomas. We also review reports in the literature about the treatment of symptomatic hepatic hemangiomas, including surgery, transcatheter arterial embolization and radiofrequency ablation. [*Tzu Chi Med J* 2008;20(1):70–72]

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1. Introduction

Although hemangiomas are the most common benign tumors of the liver, fewer than 10% of cases undergo enlargement [1] and only some of them cause symptoms. Intervention is needed in patients with symptomatic hemangiomas. Hemangiomas should not be overlooked because they are benign and may need to be managed using more than conservative treatment. We present a case that was treated using surgery.

2. Case report

A previously healthy 40-year-old woman had a hepatic hemangioma that was incidentally found during physical check-up approximately 8 years prior to this presentation. The tumor size was about 3–4 cm. According to this patient's statement, the tumor had continued to grow about 1 cm in diameter yearly. She did not have any discomfort until May 2005 when she felt intermittent right upper quadrant abdominal pain and right back pain. She also felt fullness and easy satiety. The tumor size was approximately 11×8 cm. She was managed with conservative treatment. However, the persistent symptoms bothered her physically and psychologically for 1 year, and she came to our hospital for further management.

On physical examination, her abdomen was mildly distended with slight tenderness on the right upper quadrant. No edema was found in bilateral lower extremities. She was not icteric or pale. Laboratory

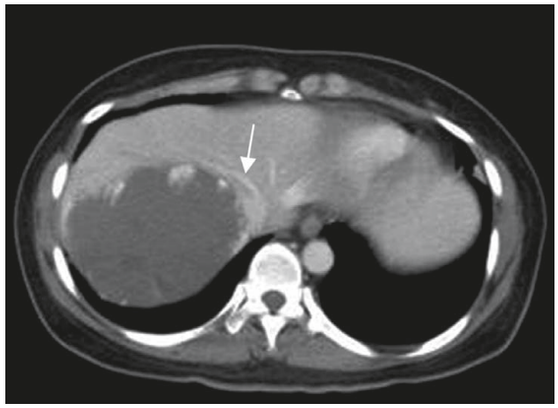

Fig. 1 — Huge mass with peripheral enhanced nodularity occupying nearly all of segments 7 and 8 and extending to segments 5 and 6. The inferior vena cava is compressed to the medial aspect by the mass. The right hepatic vein cannot be clearly seen here. The middle hepatic vein is very close to the mass (arrow).

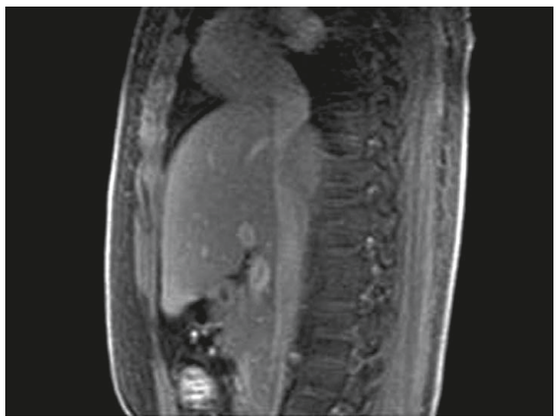

Fig. 2 — Magnetic resonance imaging, sagittal view, shows the location of the tumor and the inferior vena cava (IVC). The tumor is encircling the IVC with extension to the posterior aspect of the IVC and near the orifice of the hepatic vein.

data revealed that the blood count and liver function test results were within reference ranges. Hepatitis B virus and hepatitis C virus markers were negative, and α-fetoprotein level was 14.56 ng/dL (reference range, 0–10 ng/dL).

Both computed tomography (Fig. 1) and magnetic resonance imaging (Fig. 2) showed that the tumor nearly occupied all of segments 7 and 8 and extended to segments 5 and 6 with compression on the intrahepatic inferior vena cava (IVC) and extended to the posterior aspect of the IVC.

Right hepatectomy was performed. A huge reddish pink tumor with thin walls was noted. It was highly vascular with easy bleeding. Intraoperative ultrasonography was used to mark the plane of parenchymal

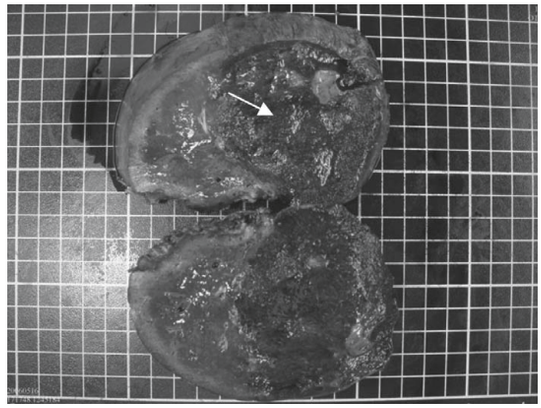

Fig. 3 — Cut section of the resected liver: the reddish tumor (arrow) measures 11.5×8×7 cm.

transection without injury to the middle hepatic vein. Parenchymal transection was performed using an ultrasonic dissection device under the Pringle maneuver. After parenchymal transection and exposure of the anteromedial surface of the IVC, the tumor was dissected away from the IVC. Several short hepatic veins were divided. The right hepatic vein was found to be directly draining the tumor into the IVC. Finally, we divided the draining right hepatic vein between the clamps. The tumor measured 11.5×8×7 cm (Fig. 3). Histological examination revealed a cavernous hemangioma. The postoperative course was uneventful.

3. Discussion

A giant hemangioma is considered when the size is more than 4 cm. Most of them remain stable with no symptoms. However, some of them may become symptomatic. The most common symptom is abdominal pain or discomfort. For symptomatic patients, it is advocated that they undergo thorough evaluations to determine any other causes for the symptoms.

Intervention may be needed. In a review of the literature, occasional case reports of hemangioma rupture either spontaneously or with minimal trauma have been reported, especially when the tumor is close to the surface. The incidence is about 1–4% and 32 cases have been described in the literature with a high mortality rate (36–69%) [1–3]. In addition, giant hemangiomas that extend throughout the entire liver or are sequestered and destroy platelets, causing consumptive coagulopathy and symptomatic thrombocytopenia, known as Kasabach-Merritt syndrome that require liver transplantation have been reported [4,5].

When considering surgery, it should be emphasized that lesion size is not a criterion for resection during management of giant liver hemangioma [6]. Patients

who suffer persistent significant symptoms are candidates for resection. In the study by Yoon et al, among patients with symptoms before resection, 96% had resolution of symptoms after their operations (7). Few patients have postoperative wound pain. In smaller tumors, enucleation is preferred. However, if the tumor precludes safe enucleation, for the patient's safety, anatomic resection is the procedure of choice (8). It should be based on the balance between the benefits from surgical resection and the estimated operative risks for patients. The operative morbidity and mortality rates are low in experienced hands.

In addition to surgical resection, there are other modalities (transcatheter arterial embolization (TAE) and radiofrequency ablation) available to manage symptomatic hemangioma, especially for high surgical risk patients.

There have been several reports from China and India that TAE decreases tumor size and results in symptom relief. In the report by Zeng et al, in patients who underwent TAE, tumor diameters decreased from 9.7±2.3 cm to 5.6±1.6 cm after TAE treatment (9). The clinical symptoms were relieved in all symptomatic patients. However, transient impairment of liver function was noted (9).

In the report by Huang et al, six cases of severe biliary and hepatic complications after hepatic artery embolization for hepatic hemangioma was reported (10).

We have no experience with TAE for hemangiomas at our hospital and there is also a limited number of reports in the literature in Taiwan. In addition, there are no long-term follow-up results of hemangioma size after TAE treatment.

Ultrasonography-guided percutaneous radiofrequency ablation is another treatment. In the report by Cui et al, the ablated lesions shrunk and the range was 38–79% (11). For tumors too close to the hilum and the liver borders, care should be taken to avoid major complications such as bleeding, biliary complication and hollow organ perforation.

Symptomatic hemangiomas should not be overlooked just because they are benign tumors with surgical risks for liver operation. We conclude that for symptomatic patients, early surgical intervention is recommended.

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